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Not common. Occurs in the Middle Staets and Canada (Pettit).

**D. striatulus**, Say, Journ. Acad. V, p. 192. *cribrosus*, Lec. (Rhyssemus), Agass. Lake Super. p. 225. Harold, loc. cit.—Oblong, robust, piceous black, opaque. Head coarsely punctured; front hemihexagonal, clypeus feebly emarginate at middle and subangulate on each side. Thorax strongly convex, densely cribrate and with a distinct, broad longitudinal impression; sides nearly straight in front, deeply sinuate at base; distinctly margined at the sides. Elytra oval, strongly convex, slightly broader behind the middle, surface strongly, acutely carinate, intervals with a single row of coarse punctures. Body beneath opaque, coarsely punctured. Legs brownish, coarsely punctured. First joint of middle and hind tarsi long. Length .16—.20 inch; 4—5 mm.

Occurs from the Middle States northward to Canada, but not common.

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### Descriptions of new species of HISTERIDÆ of the United States.

BY GEO. H. HORN, M. D.

#### HISTER, Linn.

**H. Ulkei**, n. sp.—Oblong oval, sides feebly rounded, black, moderately shining. Front with distinct semicircular line. Thorax convex, sides feebly rounded, slightly broader behind, margin fimbriate with short hairs; exterior stria close to margin, entire, inner stria distant, slightly sinuous and more distant in front. Elytra with three entire dorsal striæ, a fourth and fifth apical, the former being one-half and the latter one-third the length of third; sutural stria abbreviated in front; subhumeral stria extending one-half from apex to base and close to the first dorsal, gradually diverging and with a short slightly arcuate extra-humeral stria; oblique humeral stria distinctly impressed. Pygidium and propygidium coarsely punctured, the latter rather more sparsely. Body beneath black, shining, abdomen fuscous and coarsely strigosely punctured toward the sides; side pieces of meso- and metasterna with few coarse punctures. Anterior tibiæ bidentate, hind femora and tibiæ stout, the latter irregularly biserially spinulose. Length (tip of suture to anterior margin of thorax) .20 inch; 5 mm.

This species differs from all our others of group 3, Lec., by its more elongate form, very obtuse in front, and by the well defined internal subhumeral stria with extra-humeral appendage and also by the presence of the fourth and fifth dorsal striæ. The legs are entirely black, the hind tibiæ robust as in *arcuatus* and irregularly biserially spinulose. This species should be referred to the fourth group of Marseul.

I have named this species in honor of Mr. H. Ulke, of Washington, by whom it was sent me under the name *instratus*, which species has no subhumeral stria. The elytra are colored as in *instratus*.

Occurs in Nebraska.

**H. Arizonæ**, n. sp.—Oval, moderately convex, black, shining. Antennæ piceo-rufous. Front with distinct semi-circular stria. Thoracic margin sparsely pilose, and with two entire nearly parallel striæ. Elytra rufous and with

margins, and quadrangular scutellar spot, black, with three entire dorsal striæ, a trace of a fourth at apex, sutural stria short abbreviated at each extremity; oblique humeral stria distinct; subhumeral stria internal, as deep as the next dorsal and one-half nearer to it than the second, obliterated at humerus and without arcuate appendage. Propygidium and pygidium coarsely not densely punctured. Side pieces of meso- and metasternum cribose, abdominal segments at sides coarsely punctured. Anterior tibiæ bidentate, middle and posterior tibiæ biserially spinulose, the latter being strongly compressed and the spinules distantly placed. Length (ant. margin of thorax to tip of suture) .18 inch;  $4\frac{1}{2}$  mm.

Resembles *H. biplagiatus*, Lec., in color and size but it is less broadly oval.

One specimen. Camp Grant, Arizona.

**H. Gloveri**, n. sp.—Oblong ovate, robust, convex, black, shining. Antennæ piceous, club paler. Front convex, frontal stria obsolete. Thorax with sides rounded, gradually narrower in front, margin sparsely flavo-fimbriate; two lateral entire striæ more distant anteriorly, the inner sinuous at its middle: surface smooth. Elytra with short rather deeply impressed sub-humeral stria, three entire dorsals with distant punctures near their apices; fourth and fifth very short, apical; sutural abbreviated in front. Propygidium and pygidium coarsely punctured, the latter more densely. Inflexed portion of elytra excavate, epipleuræ bistriate. Mesosternum and metasternum smooth, side pieces coarsely but distantly punctured. Anterior tibiæ bidentate, middle biserially spinulose, posterior thickened, very irregularly spinulose. Length (from apex of thorax to end of suture) .24 inch; 6 mm.

A very distinct species from any known to me. The sub-humeral stria is short, its apical portion being replaced by a few moderately large punctures. In front of the fourth and fifth striæ similar punctures are seen. Its color is entirely black.

This species must be referred to Group 3, Lec. (Proc. Acad. 1852, p. 38) and Group 5, A., Marseul.

For the unique in my cabinet, I am indebted to Mr. Townsend Glover, of the Agricultural Department, to whom I with pleasure dedicate it. It was found near Fort Cobb, Indian Territory.

**H. militaris**, n. sp.—Oblong oval, sides feebly rounded, black shining, elytra red, with scutellar spot, apical and middle of lateral margin black. Front slightly concave, with distinct semicircular line. Sides of the thorax very feebly rounded, and slightly narrower in front, margin glabrous. Internal stria entire, straight, external stria short. Elytra feebly convex with three entire dorsal striæ and short fourth and fifth striæ at apex, sutural stria with basal fourth obliterated; oblique humeral stria short, feebly impressed. Propygidium and propygidium densely punctured. Anterior tibiæ sub-tridentate, posterior tibiæ slender, biserially spinulose. Epipleuræ bistriate. Antennal fossæ shallow. Body beneath and legs black. Length (apex of suture to anter. margin of thorax) .18 inch; 4.5 mm.

Notwithstanding the sub-tridentate tibiæ and glabrous thoracic

margin (the latter may be accidental) I retain this species in Group 3, Leconte, on account of the very shallow antennal fossæ. It differs from all our species to which it is allied by the outer marginal thoracic stria being short and scarcely extending one third from the anterior angle toward the basal margin. The elytra have no trace of subhumeral stria, the first three dorsals are entire, the next two short, the fourth having the anterior half obliterated, the fifth the anterior two-thirds. At the base opposite the fifth stria, on one elytron, are two punctures and on the other a very short stria.

This species must be referred to Marseul's Group 7.

One specimen, somewhat injured, collected at Fort Yuma, California.

The description of our species of Group 3, Lec., are widely scattered and as those with red elytra resemble each other closely in description, the following table is offered as a guide to our students of this family. The arrangement of Marseul is so widely different from that of Dr. Leconte that our nine species are spread in four groups. The numbers in parenthesis indicate the latter groups.

**Marginal stria of thorax entire.**

**Elytra without subhumeral stria.**

Hind tibiæ compressed, biseriately spinulose, spinules distant; margin of thorax sparsely fimbriate.....**biplagiatus**, Lec. (7).

Hind tibiæ stouter, spinules very irregularly biseriate; margin of thorax fimbriate with long hairs.....**sellatus**, Lec. (7).

**Elytra with distinct subhumeral stria.**

Subhumeral stria internal, and with humeral arcuate appendage.

Form broadly oval; femora rufous, hind tibiæ robust, fourth dorsal stria very short or wanting .... **arcuatus**, Say, (4).

Form oblong; femora piceous; fourth dorsal stria extending three fourth to base..... **Ulkei**, Horn, (4).

Sub-humeral stria internal, not appendiculate at humerus.

Outer edge of anterior tibia not dentate, color entirely black..... **lævipes**, Er. (2).

Outer edge of anterior tibia bidentate; elytra in great part red..... **Arizonae**, Horn, (2).

Sub-humeral stria external, short, visible only at humerus.

Body entirely black, form robust, convex..... **Gloveri**, Horn, (5).

Elytra red in great part, less convex, broader ..... **instratus**, Lec. (5).

**Marginal stria of thorax short, visible only in front..... *militaris*, Horn, (7).**

The above mentioned species have the thoracic margin more or less fimbriate, and with the exception of *lævipes* the anterior tibiæ are bidentate. Two are entirely black the others have red elytra with a

scutellar black spot and the sides, apex, and base usually margined with black.

**HETÆRIUS**, Erichs.

**H. californicus**, n. sp.—Broadly ovate, convex, reddish-brown, shining. Front concave, margin elevated, rather coarsely punctured and hairy. Thorax with a deep oblique sulcus on each side, margin thick, very convex, and with a deep impression at middle. Elytra seriatly setulose, and with two discal striæ, of which the outer only is entire, an entire sub-humeral, extending from base to apex. Pygidium convex, smooth, inferior. Propygidium smooth, convex, vertical. Prosternum compressed between the coxæ, broader behind, emarginate at apex, lobed at base. Mesosternum with middle lobe rounded, prominent, lateral lobe prolonged, acute, and with deep fossa on each side. Body beneath paler, smooth, shining. Length .09 inch; 2.25 mm.

The disc of the thorax between the grooves is moderately convex, rather coarsely punctured and hairy, the margin is very convex and with a very deep impression at the middle, in front of which the surface is coarsely punctured and hairy, and behind smoother. The oblique sulcus is deeper and broader at base. The sides of thorax are gradually rounded from base to apex. The prosternal lobe is quite prominent and slightly emarginate at apex. The prosternum between the coxæ has on each side a finely elevated line.

This species resembles *brunnipennis*, Lec., and may be known by the sides of the thorax being rounded, not oblique, the impression at middle of margin deeper, the disc punctured and hairy, the elytra broader, and the striæ deeper. In its general form this species is broader and more convex.

For a single specimen of this species, I acknowledge great indebtedness to Mr. James Behrens, of San Francisco, who has already contributed several uniques of scientific interest to my cabinet.

One specimen from Sonoma, California. Occurs probably with ants as do our other species of *Hetærius*.

**TRIBALUS**, Erichs.

**T. californicus**, n. sp.—Oblong oval, moderately convex, slightly shining. Head coarsely but sparsely punctured, front near eyes elevated. Antennæ frontal, piceo ferruginous, club annulated, truncate and testaceous; antennal fossa at anterior angle of thorax concealed from beneath by a well developed pectoral plate. Thorax twice as broad at base as long, moderately convex, sides gradually rounded from base to apex, lateral margin distinctly reflexed, surface rather coarsely and moderately densely punctured. Elytra more shining than thorax, moderately convex, and with four slightly elevated costæ of which the outer three are entire, the inner one half the length of elytra, also a marginal ridge becoming inferior at its posterior half, attaining the apex but fainter at tip, and a sub-marginal fainter ridge of half the length of the elytra; intervals between costæ irregularly sub-seriatly punctured; disc of elytra with series of moderately coarse punctures. Mesosternum arcuate

in front, sparsely punctured, side pieces and first abdominal segment coarsely punctured. Pygidium inflexed, coarsely punctured. Legs piceo rufous. Length .07 inch; 1½ mm. (Entire length).

Notwithstanding several of the characters above given the species is placed in *Tribalus*, from the position of the antennal fossæ, the insertion of the antennæ and the form of the club. The inflexed pygidium has an analogue in *lævissimus*, Lec. The elytral sculpture is peculiar and recalls *Onthophilus*, from which however it differs in its very distinct and prominent prosternal lobe. The disc of the elytra (the portion between the two inner ridges, shows rows of fine punctures which show a tendency to become striæ. The sutural row is entire and not striate, the next inner row is striate at base, arched, uniting with the sixth row which is also striate and extends in form of stria nearly half the length of the elytra; the fifth row also becomes slightly striate at its apical portion. Between the inner short ridge and the next inner stria are moderate punctures arranged more regularly biserially than those between the costæ.

An unique specimen of this insect was sent me by Mr. H. Edwards, of San Francisco, by whom it was collected in the neighborhood of that city.

#### ONTHOPHILUS, Leach.

**O. Lecontei**, n. sp.—Broadly oval, moderately convex, black, shining. Front coarsely punctured, anteriorly variolose, feebly triangularly elevated and with a short, faint carina at vertex. Thorax densely and coarsely punctured, nearly twice as broad at base as long, sides feebly rounded, gradually narrower to the front, margin smooth, and thickened, apex feebly emarginate, base broadly rounded; disc with six elevated lines, the central pair attaining the apex, but not the base of thorax, the next outer abbreviated at each end, the outer costæ stronger, attaining the base and slightly curved outward toward the basal angle. Elytra scarcely broader than the base of thorax, disc feebly convex and with seven rather strongly elevated costæ, interstices finely bicarinate and with a row of distant coarse punctures, margin inflexed, sinuous and carinate. Propygidium convex, slightly more elevated along the middle, coarsely punctured. Pygidium coarsely punctured, oval, oblique. Prosternum coarsely punctured, slightly concave. Mesosternum very coarsely punctured, variolose. Length .16 inch; 4 mm.

This species is our largest and is more regularly oval and less convex than any other of our species. The head is much less distinctly triangularly carinate, the converging ridges being almost obsolete in front; the carina of the vertex is also very faint. The thorax is broadest at base, gradually narrowing to apex and with feebly rounded sides. The outer carina of the disc is much stronger and attains the basal margin of the thorax. The elytra have seven distinct costæ on the disc without the sutural elevation. Between the costæ the in-

terspaces are feebly bi-carinulate, often interrupted, and between these, in the centre of the interspace, is a row of large distant punctures. The elytra are but slightly broader at base than the base of the thorax, the general form of the insect being thus more nearly a regular oval than any of our species. The prosternum is coarsely punctured, the mesosternum still more coarsely.

A single specimen collected by myself at Fort Tejon, Cal.

**SAPRINUS**, Leach.

**S. estriatus**, Lec. Pacif. R. R. Surv. App. I, p. 36.

Fine large specimens of this species collected by myself in Owen's Valley, California, enable me give a full description of it. Its position in the genus is, according to the arrangement of Leconte, in Group 8, in Marseul, Group VI, a. The head is distinctly margined in front, the prosternum is bi-striate, the striæ approximate and rather strongly divergent behind. The front has two distinct chevrons bounded by feebly impressed lines and apt to be indistinct. The species is robust recalling that of *sulcifrons*, but more oval. Head sparsely punctured moderately convex and subopaque. Thorax strongly convex, sides gradually and feebly rounded from base to apex; disc densely punctured, more coarsely toward the sides and with two rows, each of four badly limited smoother patches arranged in a transverse arc with the convexity forward. Elytra densely punctured, each with three moderately well defined round, smooth, patches arranged in an oblique row, the outer at the humerus, the middle smaller within and slightly behind the first, the inner larger than the last near the suture and in front of middle; a narrow apical margin is also smooth. Toward the sides are two obsolete striæ, the inner one at the inner edge of the humeral space extending nearly to the apex, the outer stria interrupted by the humeral space and shorter than the first. The body beneath is much less densely punctured than the upper surface. The anterior tibiæ five or six dentate. posterior tibiæ biserially strongly spinulose. The color of the body is nearly black, opaque and with a very faint bronzed tinge. Antennæ piceous, club rufous. Pygidium densely punctured at the sides, median space and apex smooth. Length .18—.24 inch; 4.5—6 mm.

The smaller specimen is in the cabinet of Dr. Leconte, and is reported from Oregon, three others of the large size are from Owen's Valley, Cal., and were collected by myself. In the Oregon specimen the lateral striæ are scarcely perceptible, in one of the larger they are quite distinct, the other two intermediate, forming a gradual series.

*S. æquipunctatus*, n. sp.—Oblong oval, moderately convex, black, sub-opaque. Head densely punctured. Thorax with sides moderately rounded, slightly narrower in front, anterior angles rounded, surface very densely punctured and rather more coarsely at the sides. Elytra densely and evenly punctured and with a sutural stria extending from apex two-thirds to the base, and four dorsal striæ parallel and not arcuate at basal end, the inner being two-thirds the length of the elytra the outer ones gradually longer, humeral stria obliterated at humerus but distinct beyond. Prosternum transversely convex, and with striæ divergent in front terminating in a fossa. Meso- metasternum, abdomen and legs coarsely punctured, side pieces of sterna cribrate. Pygidium very convex, coarsely and densely punctured. Anterior tibiæ 6-denticulate. Length (anterior margin of thorax to tip of suture) .14 inch;  $3\frac{1}{2}$  mm.

This species as the above noted characters exhibit should be placed in Group 6 (Lec. Proc. Acad. 1852, p. 49.) and in Group 2 of Marseul's System. It resembles *punctatissimus*, Er. in its sculpture being however more elongate and less convex and differs from it as well as our own species in having the inner dorsal stria straight and not arcuate at basal end. Two of our species of this group have the entire surface of the body rather densely punctured and without smooth spaces, *insertus*, Lec., and *obductus*, Lec., these have the inner dorsal arched at base uniting with the sutural. The margin of the thorax is not fimbriate.

The specimens of the species have been received from Mr. Jas. Behrens, collected near San Francisco and sent with a catalogue number 858.

The two following species having been recently reported within our faunal limits, short descriptions of each have been given that they may be known if in the cabinets of any of our students. Full descriptions with admirable figures may be found in the Monograph of Marseul.

*S. cubæcola*, Mars. Monog. 1855, p. 467, pl. 18, fig. 88.—Similar in form to *S. pennsylvanicus*, but less convex and with the sides of the elytra less rounded and the sides of the elytra more convergent toward the apex. Head faintly bronzed, moderately coarsely but not densely punctured, and more sparsely at apex. Thorax distinctly bronzed, disc smooth, sides finely punctured, punctures narrowly extending along the base. Elytra black, densely and rugosely punctured, punctures becoming finer and substrigose at apex; scutellar region less densely punctured, humeri and sides of elytra smoother; elytral striæ almost entirely obliterated; sutural stria entire. Pygidium moderately convex and with the propygidium rather densely and coarsely punctured. Prosternum convex and with the striæ ascending in front. Mesosternum distinctly punctured. Metasternum smooth at middle, finely punctured at the sides and coarsely at base. Length (apex of thorax to tip of suture) .20 inch; 5 mm.

The striæ of the elytra are indicated merely by the closer approximation of punctures, the first two attaining nearly the middle, the other



two, very short, the inner united with the sutural by several larger punctures forming a faint arch. Humeral stria very fine.

One specimen from Key West, agreeing with all the characters given by Marseul. The species may be found farther north.

**S. æneicollis**, Mars. Monog. 1855, p. 424, pl. 17, fig. 56.—Very closely resembles *S. pennsylvanicus*, but may be at once distinguished by the deep groove around the lateral and apical margins of the pygidium. The entire upper surface is shining, thorax bronze and elytra blue, with a tinge of green. The elytra have the first and second striæ distinctly marked, extending three fourths of the length of the elytra; third stria short, basal; fourth extending to middle and arching at base to join the sutural; oblique humeral stria distinct but fine, internal subhumeral obliterated, external very short. Surface of elytra sparsely and finely punctured, apical region with coarser punctures extending forward in lines to meet the striæ, and also more numerous along the suture. Length (from apex of thorax to tip of suture) .20—.22 inch; 5—5.5 mm.

This species has already occurred in south-western Texas.

#### **PLEGADERUS**, Erichs.

**P. nitidus**, n. sp.—Oblong, moderately convex, black, shining. Antennæ piceous, club paler. Head punctured. Thorax broader than long, narrower in front, sides at middle slightly sinuate, disc divided by a transverse sulcus into two unequal portions, sparsely and rather finely punctured the anterior portion rather more densely punctured than the posterior and more densely and coarsely near the lateral groove. Margin rather coarsely punctured and more densely in front. Lateral groove not attaining the basal margin. Elytra sparsely punctured but more densely and coarsely than the thorax. Prosternum bicanaliculate, median convex portion broadly interrupted and with a patch of silken hairs. Meso- and metasternum very finely and sparsely punctured, side pieces and first abdominal segment coarsely punctured. Legs piceous, anterior tibiæ gradually broader and very finely denticulate. Length (from apex of thorax to tip of elytral suture) .09 inch; 24 mm.

Three specimens from Nevada, one of which was sent me by Mr. Henry Edwards, of San Francisco.

This is our largest species and may be distinguished at a glance by the shining black color of the thorax.

**P. fraternus**, n. sp.—Oblong, moderately convex, piceous black, shining. Antennæ piceo-rufous, club paler. Head coarsely and rather densely punctured, but densely on the vertex. Thorax slightly broader than long, sides rounded in front, parallel behind the transverse groove. Disc unequally divided by a well defined transverse impression, anterior portion smaller; surface shining, sparsely punctured, slightly more densely on the anterior portion. Basal margin with a row of large rather closely placed punctures. Lateral groove attaining the basal margin, thickened margin coarsely punctured. Elytra coarsely and closely punctured. Prosternum bicanaliculate, median portion divided near apex by a broad transverse groove, silky pubescent at bottom. Anterior portion of middle of prosternum triangular coarsely punctured, sternal side pieces and first abdominal segment very coarsely punctured. Anterior

tibiæ gradually dilated and distinctly denticulate. Hind tibiæ slender. Length .05 inch;  $1\frac{1}{2}$  mm.

Two specimens from Nevada, from Mr. Wm. M. Gabb.

Our North American species of *Plegaderus* have certain characters in common:—Thorax with more or less distinct transverse impression, base not margined, lateral thickened margin not interrupted. Oblique dorsal stria wanting or very indistinct. They may be distinguished as follows;

Transverse thoracic impression visible only at the sides;

lateral groove not attaining the basal margin.....*Erichsonii*, Lec.

Transverse impression moderately deep, anterior and posterior portions of disc convex.

Elytra coarsely longitudinally strigose.....*transversus*, Say.

Elytra punctured uniformly.

Prosternum with a single sulcus on each side; transverse sulcus behind the middle; anterior division of middle convex portion elongate oval coarsely punctured.

Lateral sulcus of pronotum attaining basal margin, disc coarsely punctured.....*Sayi*, Mars.

Prosternum with two distinct sulci on each side.

Lateral sulcus of pronotum not attaining the basal margin, disc finely punctured. Base of thorax without a line of coarse punctures. Anterior division of middle convex portion of prosternum broader than long; transverse sulcus in front of middle.....*nitidus*, Horn.

Lateral sulcus attaining basal margin; the latter with a row of coarser punctures. Transverse sulcus of prosternum behind the middle and deep; anterior division elongate triangular, coarsely punctured, posterior portion very small.....*fraternus*, Horn.

### Description of Plate I.

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| <ol style="list-style-type: none"> <li>1. <i>Hister Gloveri</i>, Horn.</li> <li>2. <i>Hister Arizonae</i>, Horn.</li> <li>3. <i>Hister Ulkei</i>, Horn.</li> <li>4. <i>Hister militaris</i>, Horn.</li> <li>5. <i>Margarinotus guttifer</i>, Horn.</li> <li>6. <i>Hetærius morsus</i>, Lec.</li> </ol> | <ol style="list-style-type: none"> <li>7. <i>Hetærius californicus</i>, Horn.</li> <li>8. <i>Hetærius brunnipennis</i>, Rand.</li> <li>9. <i>Hetærius setiger</i>, Lec.</li> <li>10. <i>Onthophilus</i>, Lecontei, Horn.</li> <li>11. <i>Tribalus californicus</i>, Horn.</li> <li>12. <i>Saprinus estriatus</i>, Lec.</li> </ol> |
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